

# Sustainability Council

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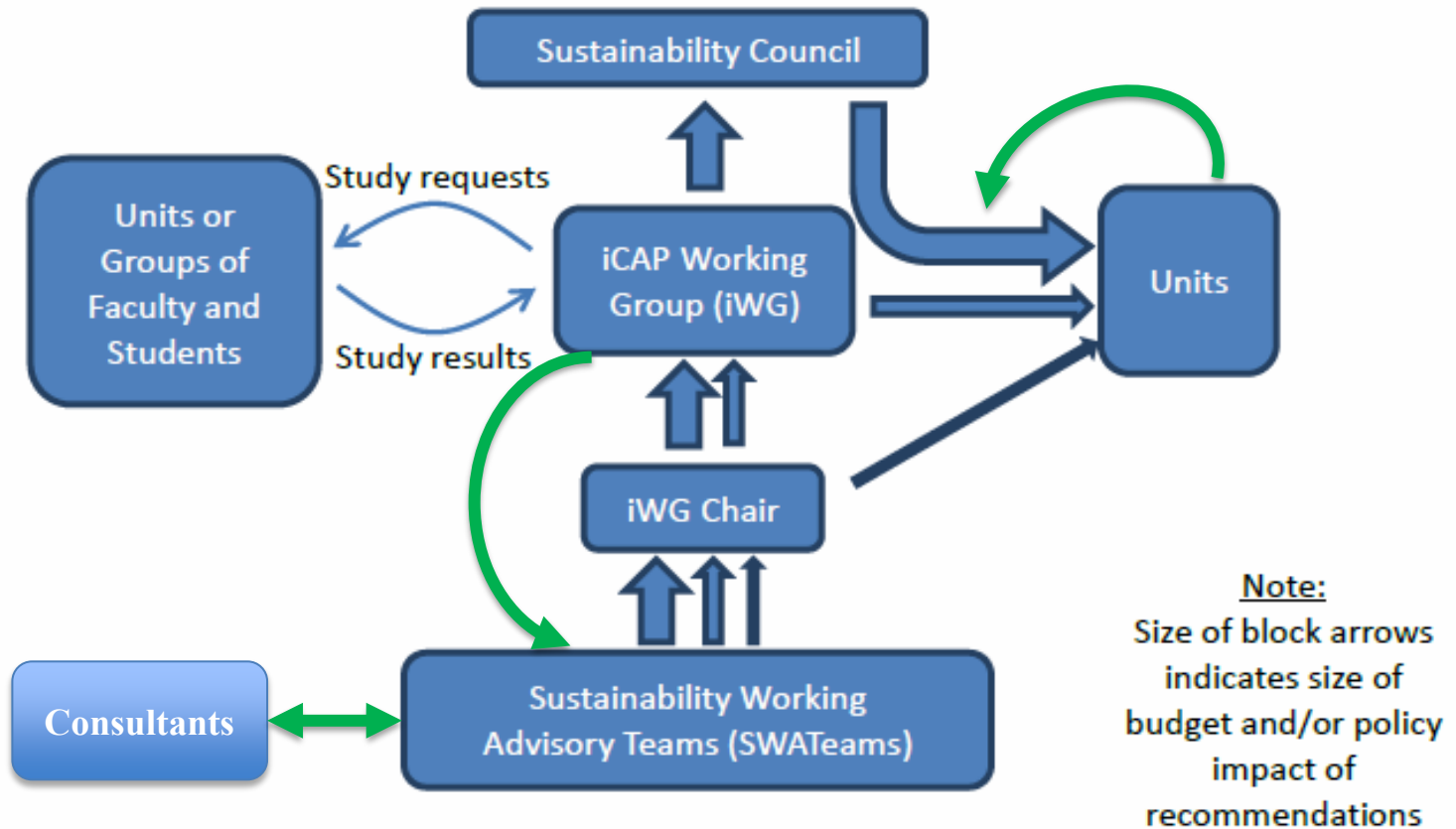
INSTITUTE FOR SUSTAINABILITY, ENERGY, AND ENVIRONMENT



## 2018-19 SUSTAINABILITY COUNCIL MEMBERS

- **Chair:** Robert J. Jones, Chancellor, University of Illinois at Urbana-Champaign
- **Vice Chair:** Evan H. DeLucia, Baum Family Director of iSEE
- Andreas Cangellaris, Vice Chancellor for Academic Affairs and Provost
- Barry Benson, Senior Vice President for Development
- Danita Young, Vice Chancellor for Student Affairs
- Susan Martinis, Vice Chancellor for Research
- Rashid Bashir, Dean, College of Engineering
- Jeffrey Brown, Dean, Gies College of Business;
- Kim Kidwell, Dean, College of Agricultural, Consumer, and Environmental Sciences
- Feng Sheng Hu, Dean, College of Liberal Arts & Sciences
- Mohamed Attalla, Executive Director, Facilities & Services
- Francis Betina, Chair, Senate Executive Committee
- Raneem Shamseldin, President, Illinois Student Senate
- Adrian Chendra, Chair, Student Sustainability Committee (SSC)
- **Non-voting attendee:** Ximing Cai, iSEE Associate Director for Campus Sustainability and iCAP Working Group (iWG) Chair
- **Secretary:** Jenny Kokini, iSEE Managing Director
- **Invited Participants:** Morgan White, Associate Director of F&S, Sustainability, and Matthew Tomaszewski, Associate Provost for Capital Planning

# Campus Sustainability Procedures



# AGENDA

## 1. iCAP Updates

- Awards and Designations
- Solar Farm 2.0
- Best Management Practices for UI farms
- iCAP integration with Research
- iCAP integration with Education

## 2. iCAP Goals and Clean Energy

- Overview of iCAP Goals
- Overview of Renewable Energy Certificates (RECs)
- Progress to date
- Current goals
- Discussion on next steps



# Updates

- 1. Awards and Designations**
- 2. Solar Farm 2.0**
- 3. Best Management Practices for UI farms**
- 4. iCAP integration with Research**
- 5. iCAP integration with Education**

# Awards and Designations



# Solar Farm 2.0

## Solar Farm 1 – existing

- Name Plate Capacity: 5.9 MW(dc)
- Production peak: 4.7 MW(ac)
- 7,200 MWh/year production
- 20.8 acres
- 6% of campus peak load demand

## Solar Farm 2 – planned

- 14.5 MW(dc), estimated
- Prod. depends on inverters
- 17,800 MWh/year production
- 50-60 acres

- Dec. 2017: Chancellor approved moving forward with RFP at Sustainability Council, project approval pending costs
- Feb. 2018: F&S Executive Director charges Advisory Committee
- Jul. 2018: CCRC approves site, pending Savoy discussion
- Sep. 2018: PEI approved to issue a 20 year PPA by BOT
- Oct. 2018: Discussion with Savoy leadership
- Nov./Dec. 2018: Planned release of RFP

# BMPs for UI Farmland

## **SWATeam/iWG recommendation:**

The iWG recommends that the Dean of ACES charges a committee to develop a management plan (as described by the SWATeam) to promote sustainable practices on South Farm. Committee should include Farm Managers, faculty experts including ACES, PRI and water scholars, and students. The plan should include the assessment of the current status, evaluation of operational and financial impacts, and impediments to Best Management Practices.

- **ACES Dean Kidwell agreed to charge a committee including members from ACES and other units**
  - For non-research farmland
  - 17,000 acres throughout State of Illinois
  - Inventory current practices, suggest BMPs to implement
  - Charge letter in progress



# iCAP and Research

- **Living Lab Seed Grant program**
  - Using iCAP projects as testbeds for major proposal development
  - Three grants issued: Bio-waste conversion, heat storage battery, and agrovoltics
- **Green Labs Committee to be charged by Jan Novakofski**
  - Inventory of facilities (e.g. the ventilation systems), resources (energy and water) uses, and material flows in research areas, animal spaces, and teaching labs
  - Identification and prioritization of methods and procedures for the research community to support the iCAP implementation

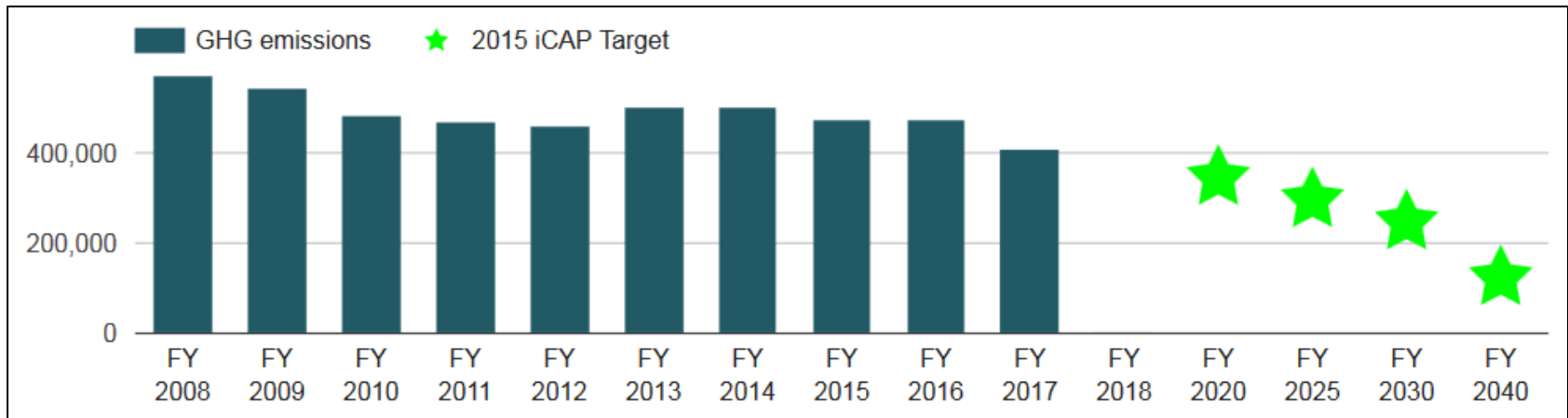
# iCAP and Education

- **SEE Fellows Minor**
  - Approximately 100 students, so far
  - Capstone courses in conjunction with CEE project course
  - Independent studies support iCAP objectives
- **Teaching Sustainability Portal**
  - New resources for teaching faculty
  - Wine and cheese mixer Dec. 3
  - Collaboration with faculty retreat in spring 2019

# **iCAP Goals and Clean Energy**

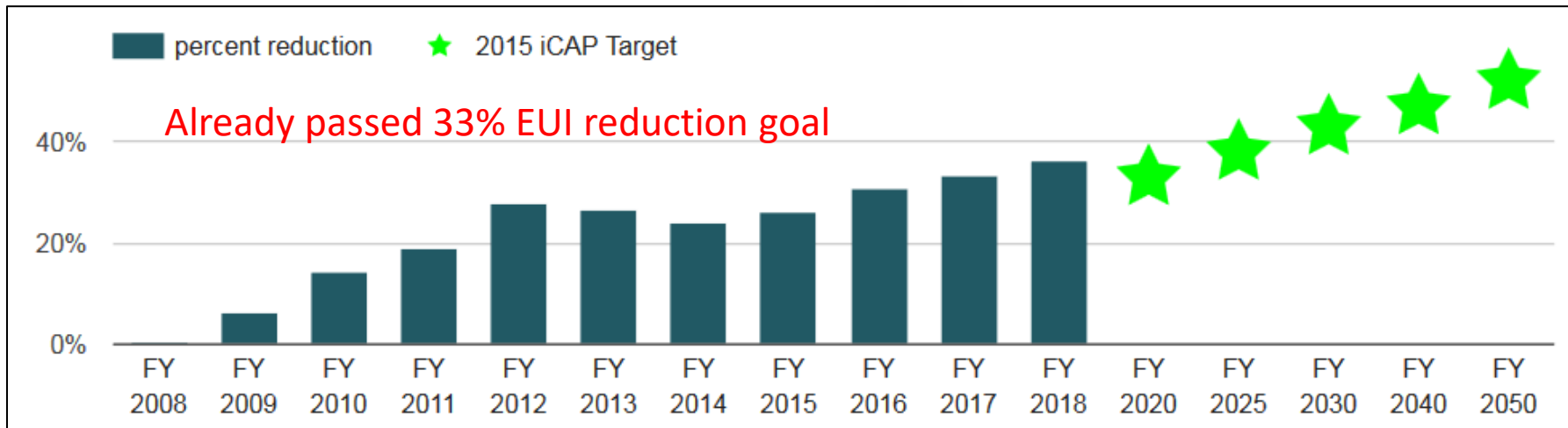
- 1. Overview of iCAP Goals**
- 2. Progress to Date**
- 3. Overview of RECs**
- 4. 2020 iCAP Goals – for discussion**

# Overview of iCAP Goals



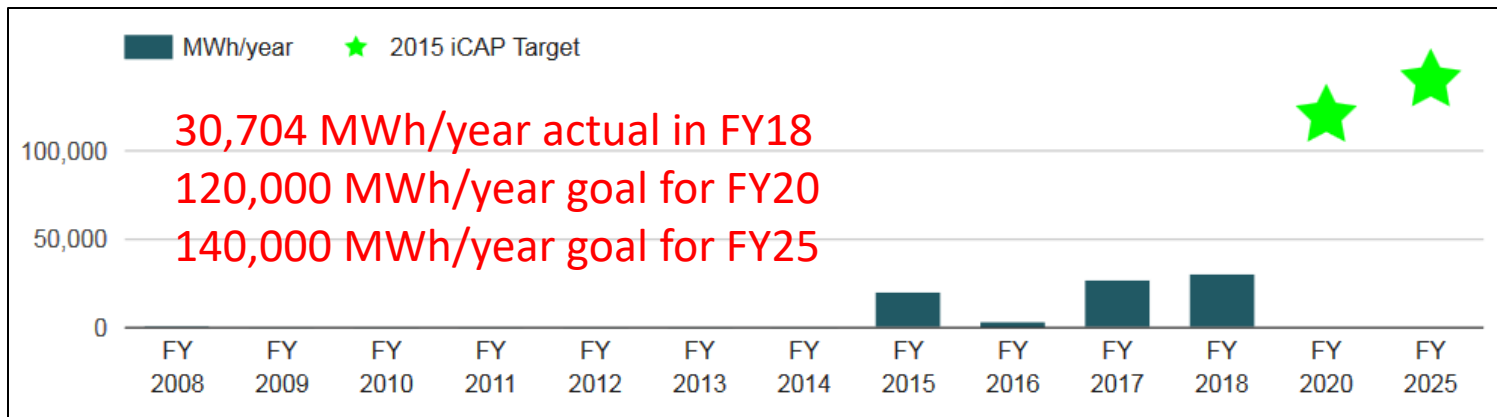
# Overview of iCAP Goals

- MMBTU/GSF = Energy Use Intensity (EUI)
- Goals based on reduction of EUI



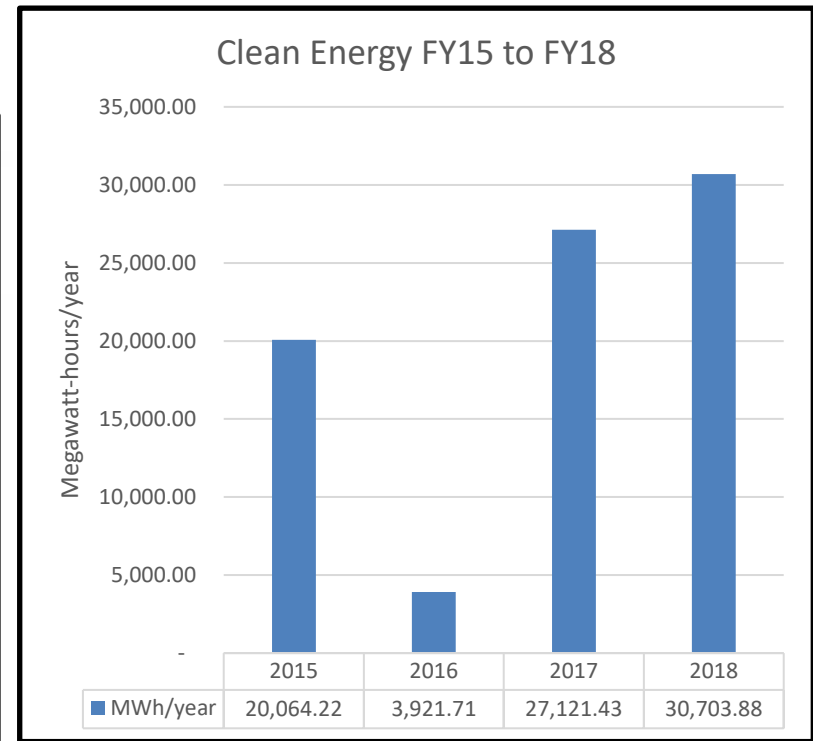
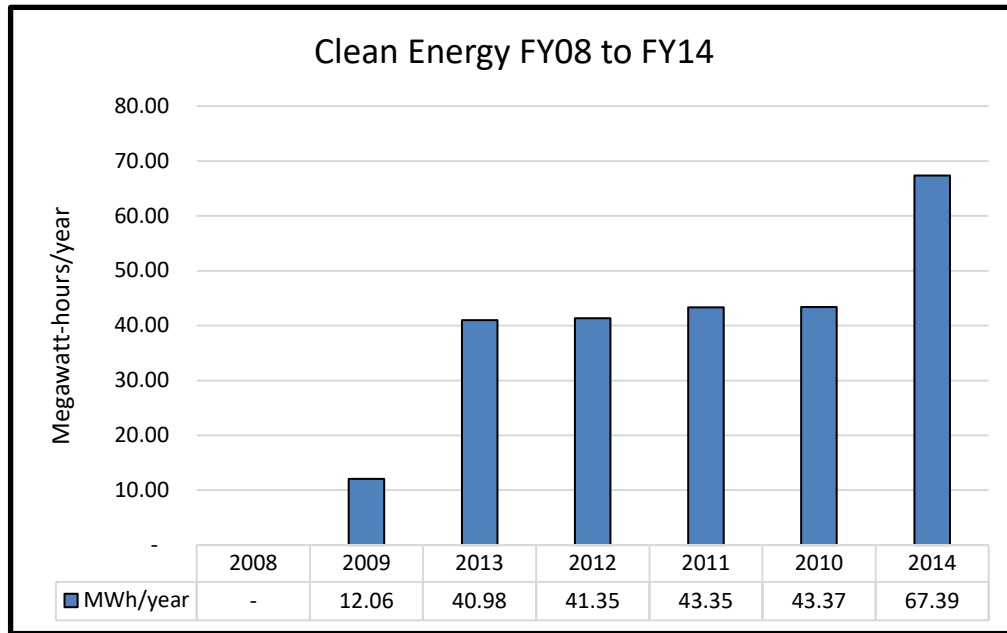
# Overview of iCAP Goals

- Clean energy use per year in MegaWatt-hours (MWh/year)
- Small scale in first years, starting in FY09

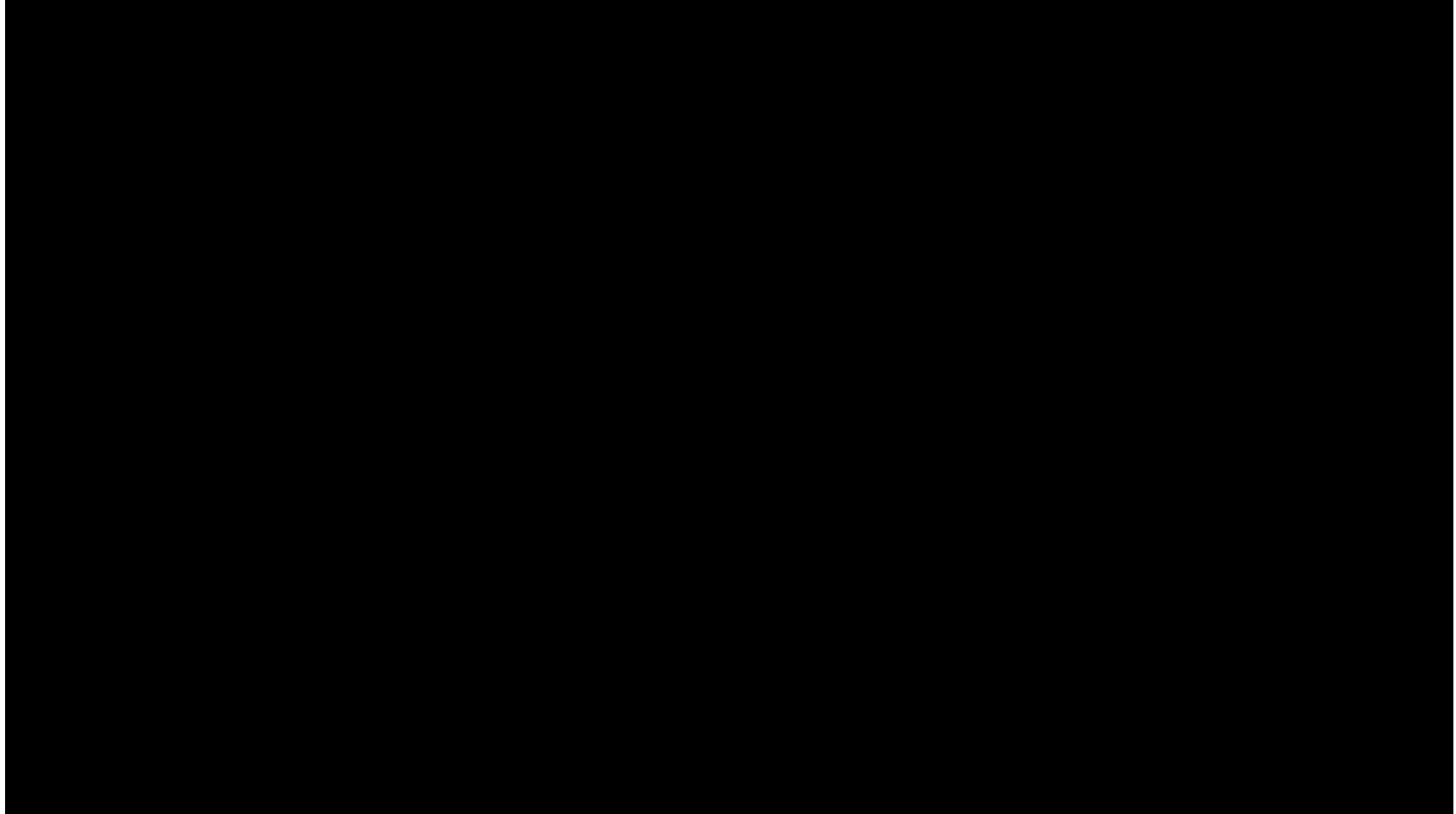


# Progress to Date

- Bought 20,000 green-e RECs in FY15 only to meet a 2010 iCAP goal of 5% renewable power
- Solar Farm began Dec. 10, 2015, produces about 7,200 MWh/year
- Wind Power Purchase Agreement began Nov. 1, 2016, for about 25,000 MWh/year



# Overview of RECs



[https://youtu.be/\\_12VYXms6-c](https://youtu.be/_12VYXms6-c)



# 2020 iCAP Goals

- Do we want to include more on-campus solar?
  - 20.7 acres gives us only 2% of total electricity
- Do we want to increase the overall clean energy goal?
  - We are only 25% of the way to our FY20 goal
- Do we want to have an objective for energy storage?
  - Storage would allow more on-site REC generation

# 2020 iCAP Goals

- Do we want to push for geothermal energy?
  - Student Sustainability Committee supported a geothermal test-well
  - DOE awarded Dr. Yu-Feng Lin \$720k to study geothermal potential on south farms
- Do we want to investigate biogas for Abbott Power Plant?
  - Just like RECs for power, there are RINs for biogas credits
- Can we get to STARS Platinum?
  - Becomes possible if we buy approx. 400,000 RECs/year